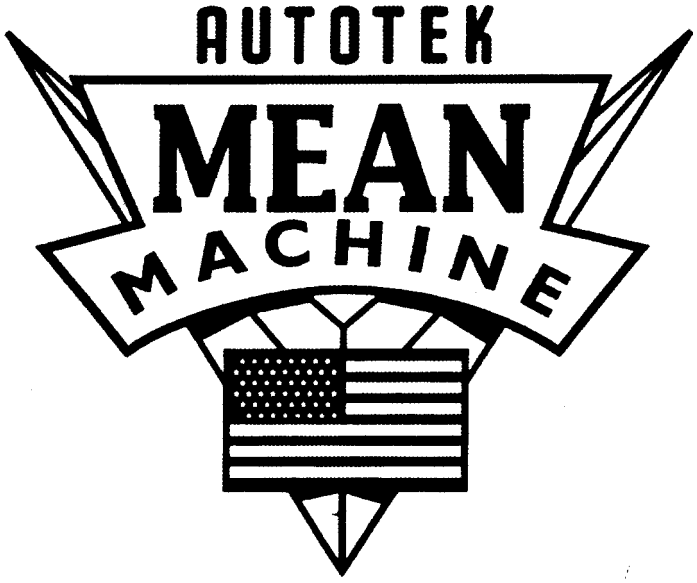


AMX 200.2 100 x 2

Owner’s Manual

Dear customer,

Selecting fine audio equipment, such as the unit you have just purchased, is only the beginning of your musical enjoyment. Now is the time to consider how to maximize the fun and excitement your equipment has to offer.
AUTOTEK and the Electronic Industry Associations Consumer Electronic Group want you to get the most out of your equipment by playing it at a safe level, a level that lets the sound come through loud and clear without annoying blaring distortion; most importantly, without affecting your sensitive hearing.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound, what may have sounded "normal" can actually be too loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a "safe level":

- Start you volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.
- Once you have established a comfortable "sound level" make a not of this position and do not go above this setting.

Taking a minute to do this will help to prevent hearing damage in the future. After all, we want you listening for a lifetime.

Introduction

Your Autotek MEAN MACHINE amplifier has been designed to give you very high performance, and valuable features, at a reasonable price. Take the time to read over this brief set of instructions, and you will get full enjoyment from your system.

Installation

The quality of the installation will affect system performance and reliability. You may wish to contact a dealer or professional installer. The amplifier is generally mounted in the rear trunk area but can be mounted in any convenient area such as beneath a seat. Please be sure to locate this unit where you have reasonable air circulation and protection from any hazard with moisture. When considering the mounting location you should minimize the length of the power supply and speaker leads. Minimizing both leads will provide higher audio output from the system. It is important to ensure that the cooling fans or the heat sink are not against a panel or a surface preventing air circulation. Mark the location from the mounting screw holes by using the amplifier as a template. Drill #29 or 9/64" diameter holes at the marked locations and firmly fasten the amplifier in place with the mounting screws supplied in the accessory kit. (Refer to Fig. 1)

Caution

Before drilling or cutting any holes investigate the layout of your automobile thoroughly; take care when working near the gas lines or hydraulic lines and electrical wiring.

Warning

This power amplifier has a protection feature to prevent any damage from misuse or faulty conditions--excessive heat, short circuited speakers or overload. If the unit senses one of the above conditions, the protection indicator will light and the system will shut down. To diagnose the problem turn all levels down, all power off and check the installation for possible wiring mistakes or shorts. In the event the amplifier shuts down due to excessive heat under adverse conditions simply allow time for the unit to cool down at which time, the protection indicator will not light.

fig. 1 Installation of Amplifier

Power Supply Connections

The +12VDC and ground wires should be heavy gauge standard copper wires with heavy insulation. The wire gauge should be 4AWG for the AMX50.2 and AMX100.2 or larger. In addition, it has a 12V remote control wire and it should be 14AWG-18AWG. It is preferable to have longer speaker wires and shorter power supply wires to minimize power losses.

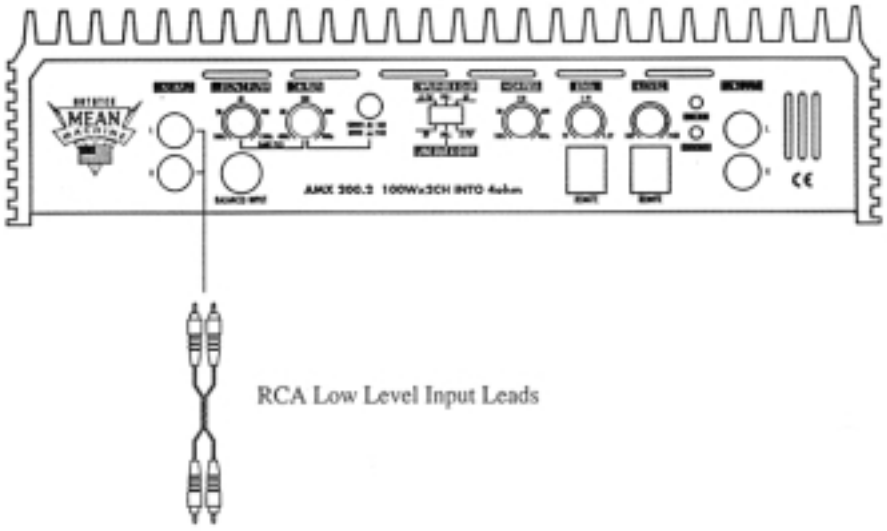
+12V Power
This wire is usually connected directly to the positive battery terminal. Ensure that the + power supply wire. This connection must be completed by using spade lug with insulating sleeve.

Ground
This connection must be completed by using spade lug with insulation sleeve. This wire is the electrical ground and must be fastened securely to the vehicle chassis. The best method is to use a threading sheet metal screw since the threads cut into bare metal. Ensure that all paint coating or other insulation is removed from around the hole area and using self tapping screw, securely affix the bare wire ends to the vehicle chassis. Use as short a piece of cable as possible--use the same gauge as for the +12V.

Remote
Many radios or other music sources have an output terminal for connection of the remote turn-on of the power amplifier. If a radio doesn't have a remote turn-on feature, then you can use the antenna relay wire which activates the antenna motor. But you must take notice if the power antenna retracts when the tape player is operating. In this case, you can't use the antenna relay wire to operate the remote turn-on.

SIGNAL INPUT CONNECTIONS

Stereo Mode



Bridge Mode

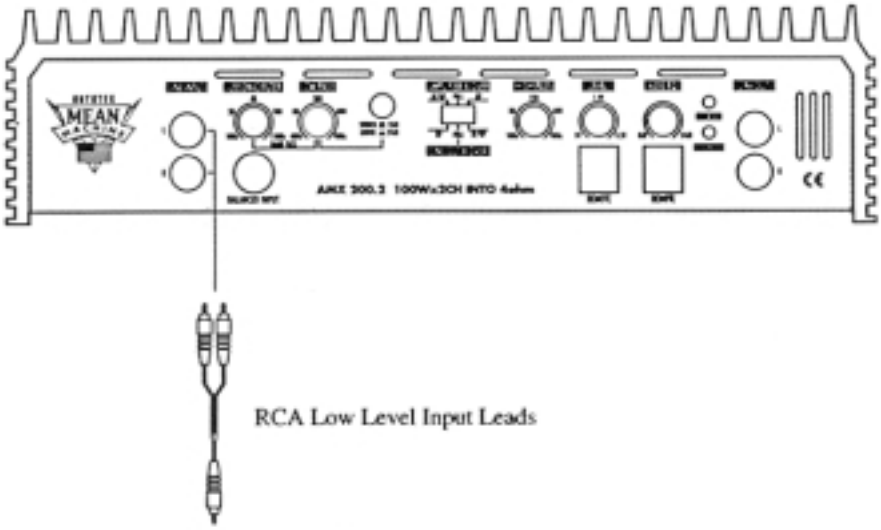
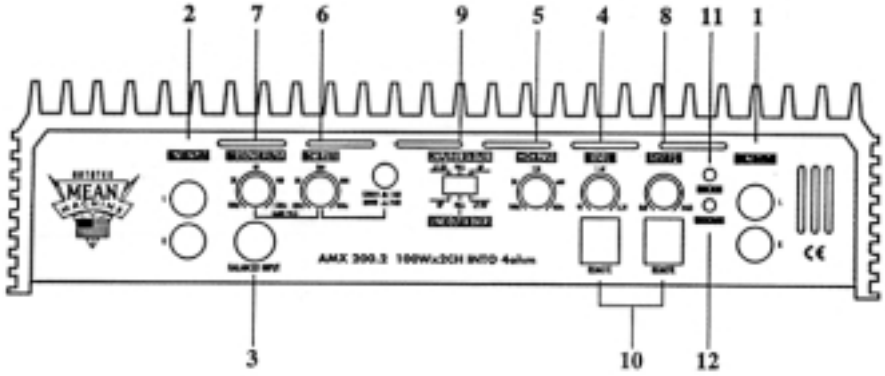
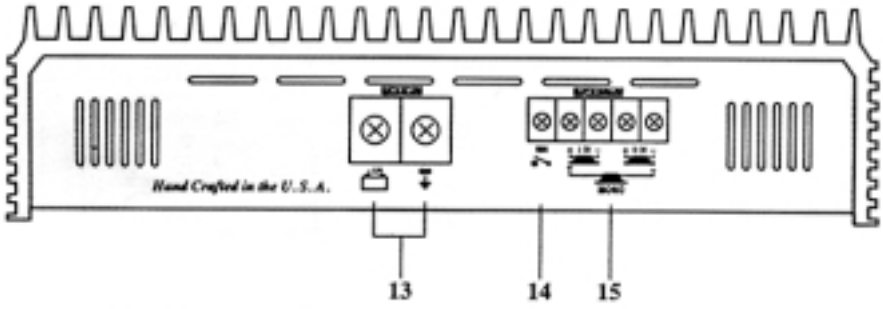


Fig.3 SIGNAL INPUT CONNECTIONS

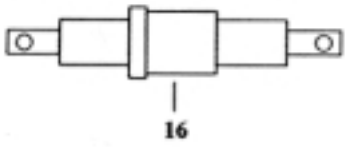
Note: RCA Cable not supplied with unit

FEATURES AND CONTROLS





EXTENAL FUSE FOLDER



Power Input Connection

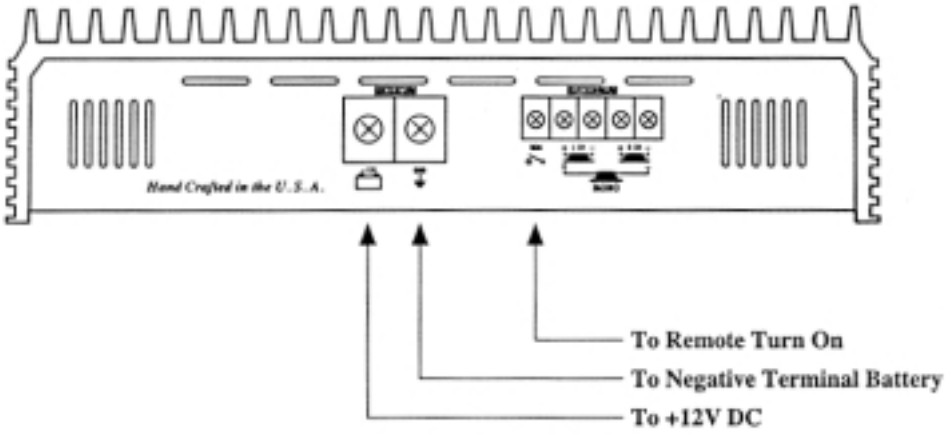


Fig.2 POWER INPUT CONNECTIONS

Caution

First make +12V wire connection then the ground connection and finally the remote connection. Furthermore the +12V wire must always be fused at the battery for protection against possible damage. If you need to replace the power fuse, replace it with a fuse of the same value. Using a fuse of a different type or rating may result in a serious hazard.

This amplifier has signal input terminal of RCA connector typ0e for low level inputs. Adjustment of input levels is accomplished by the gain control of both channels. Adjusting this control allows the amplifier gain to be controlled to match and balance both channels.

The RCA input connector should be used when connecting the radio/cassette line out and this connection is usually made by using RCA-RCA connector wires. Red connector is used for Right channel and White connector is used for Left channel.

SPEAKER OUTPUT CONNECTION

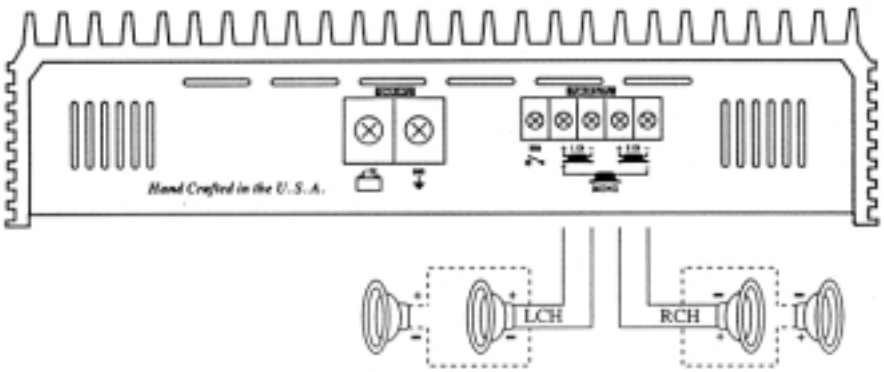


Fig.4 SPEAKER OUTPUT CONNECTION-STEREO MODE

Dotted lines show 4-speaker connections. In this case, it is better to use 4 ohm speaker to prevent any damages.

Fig. 5 SPEAKER OUTPUT CONNECTION-BRIDGED(MONO) MODE

- The amplifier can be used in the STEREO and BRIDGED mode as shown in Fig. 4, Fig. 5.
- The speaker wires should be connected to the speaker terminal on amplifier.
- Notice that most speakers have a polarity marking such as "+" or a dot on speaker terminal and these markings denote the positive terminals of the speaker and are used as a guide to phase the speakers. Improper phasing causes a loss of bass response.
- When used in the BRIDGE mode the speaker wires should be connected to the output terminals of the amplifier as shown. (Ref. To Fig. 5)
- When operating 4-speaker system, the impedance of the speaker is an important factor. Do not use less than 2 ohm in the mono mode.
- Do not use speakers in parallel for less than a 1 ohm load per channel in the stereo mode.
- Too low impedance loads will cause excessive heat radiation from the amplifier and the protection circuit will be operated to prevent damage. In this case, you must reduce the volume to the proper level.

Caution
Be careful not to connect speaker(-) to the ground or chassis.

1. RCA Line Output Jacks
   Full range output from channel L+R inputs is provided at Line Out Jacks and its output frequency can be adjusted by 3way x-over (HP/FULL/LP.BP) with line out switch.
2. RCA Line Input Jacks
   It allows left and right inputs to be connected to the amplifier using RCA plugs.
3. Balanced Input
   Accepts line level balanced input, in the 0.4V to 8V range.
4. Input Level Control
   It allows for the adjustment of the gain of both channels to match the output level of the source. In addition, it allows to adjust from 0.2V to 9.0V when using unbalanced inputs, and from 0.4V to 18V when using balanced input.
5. High Pass Variable Controls
   Adjust the crossover frequency of the High Pass output only, from 10Hz to 4.0KHz.
6. Low Variable Controls
   Adjust crossover frequency of the LOW Pass output only, from 40Hz to 4.0Hz.
7. Subsonic Filter
   The subsonic filter low pass frequency is fully adjustable from 10Hz to 150Hz, with rolloff of 12dB/Octave in the low pass stereo mode, and 24dB/Octave in the low pass mono mode, to form a bandpass filter. The higher frequency of 150Hz was chosen, to allow a 2 channel a amplifier to be used as a midbass or midrange amplifier also.
8. Bass Boost Controls
   The bass EQ control wil produce up to +18dB boost at 40Hsfor that extra bass punch.
9. Amplifier X-over switch/Line outs X-over switch
   a) LP/P position: Allows for the control of the low pass frequency range (10Hz-4.0KHz) by using the Low Variable Control, and allows Band Pass with adjustment of Low pass variable & Subsonic variable controls.
   b) Full position: Allows for full range pass through.
   c) HP position: Allows for the control of the high pass frequency range (10Hz-4.0Kz) by using the High Variable Control.
10. Remote control Jacks
    These jacks are for use with remote control only. Both jacks are connected together to allow the Daisy chaining of multiple amplifier to Remote Control Accessory. The low pass signal only will be controlled.
11. Power LED
    It indicates when amplifier is on and no fault exists.
12. Diagnostic LED
    It illuminates when fault condition exists, and amplifier immediately shuts down. If illuminated, turn amplifier off, check for shorted speaker leads and DC noise from RCA input and attempt to re-power amplifier. When amplifier overheats and thermal protection circuit shuts amplifier off, LED does not illuminate.
13. Power connection
    Connects +12VDC power wire from the battery and also connects ground wire from a suitable ground point on the chassis.
14. Remote connection
    Connects the control wire which allows the amplifier to be turned on and off by the radio cassette player.
15. Speaker Terminal
    It allows the connection of speakers to the amplifier.
16. External Fuse
    It offers external fuse to connect from battery directly. AMX200.2: 80A.

SPECIFICATIONS

MEAN MACHINE	AMX200.2
*Audio power output per Channel, both channels driven at 14.4VDC	
-4 Ohms 1kHz	350Wx2CH
-4 Ohms Bridged RMS	1200Wx1CH
*THD	
-4 Ohm loads	0.015%
-2 Ohm loads	0.15%
*Signal to Noise Ratio	100dB
*Frequency Response	10Hz-40KHz-1dB
*Crossover: Separate	
-High Pass	10Hz-4.0KHz
-Low Pass	10Hz-4.0KHz
-Slope	12dB/Stereo, 24dB/Mono
-Subsonic Filter	10Hz-150Hz
-Bass Boost	0dB-24dB
*Input Sensitivity	0.2V-9.0V
*Low level Input Impedance	47K ?
*Damping Factor	300
*Channel Separation	95dB
*Power Supply Consumption	70A
(Bridge RMS)	150A
*Fuse Rating	80A
*Dimension (W x	10.4
H x	2.6
L inch)	28.5

*1. These specifications can be changed with notice
2. Please note that the features shown in this manual may vary from model to model.

We Want You Listening for a Lifetime

Used wisely, your new sound equipment will provide a lifetime of fun and enjoyment. Since hearing damage from loud noise is often undetectable until it is too late, this manufacturer and the Electronic Industries Association's Consumer Electronics Group recommend you avoid prolonged exposure to excessive noise. This list of sound levels is included for your production.

Decibel Level	Example
30	Quiet library, soft whispers
40	living room, refrigerator, bedroom away from traffic
50	Light traffic, normal conversation, quiet office
60	Air conditioner at 20 feet, sewing machine
70	Vacuum cleaner, hair dryer, noisy restaurant
80	Average city traffic, garbage disposals, alarm clock at two feet.

THE FOLLOWING NOISE CAN BE DANGEROUS UNDER CONSTANT EXPOSURE.

90	Subway, motorcycle, traffic, lawn mower
100	Garbage truck, chain saw, pneumatic drill
120	Rock band concert in front of speakers, thunderclap
140	Gunshot blast, plane
180	Rocket launching pad

Information courtesy of the Deafness Research Foundation.